

Moodle Archiving Taskforce

Tackling Activities Beyond Moodle Quizzes and
Integrating Campus Management Systems

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Moodle an Hochschulen e.V.

What

*Previously we solved archiving Moodle quizzes
into PDF files once and for all ...*

Now we tackle the bigger picture!

Automation

Open Standards

Storage

Flexibility

Additional Files

Assignments

DMS / WORM

Archiving Status /
Overview

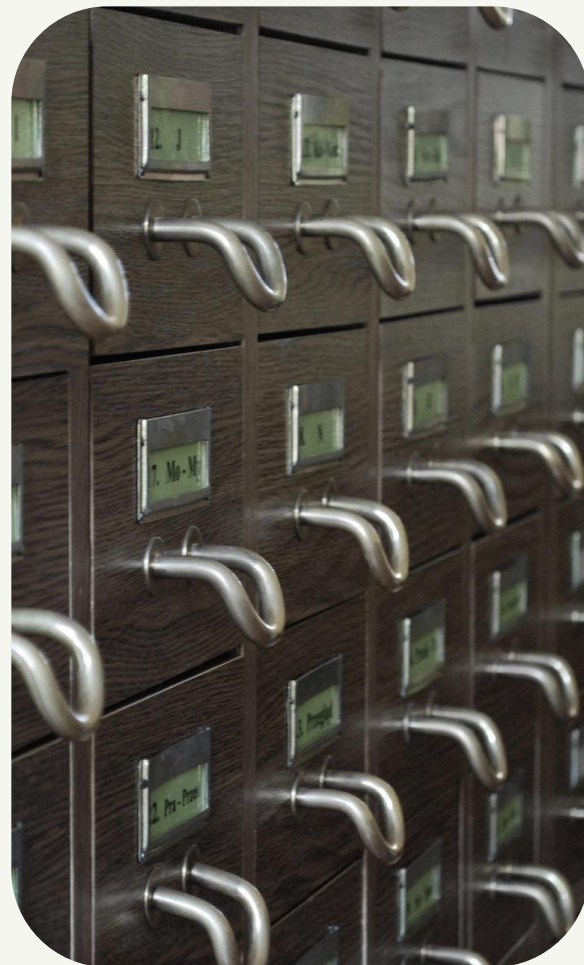
Customizability

Campus Management
Systems

Process
Integration

Maintainability

Per-User
Archives



Who

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Why

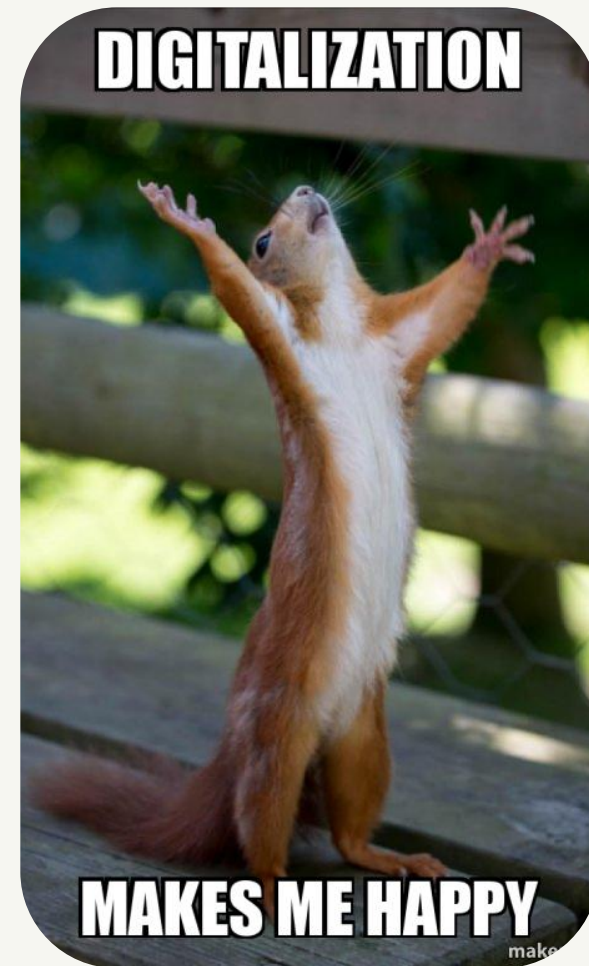
Because we are legally
required to do so

And because we hate printing to PDF by hand ...

Also our ~~printer~~ fax machine just died ...

Ain't nobody got time for that ...

Oh, and because of this cute little guy



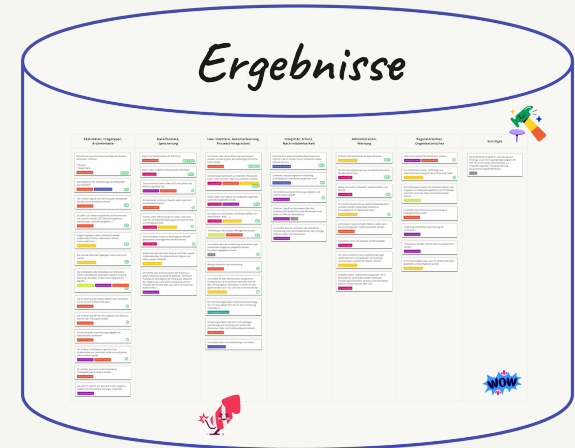
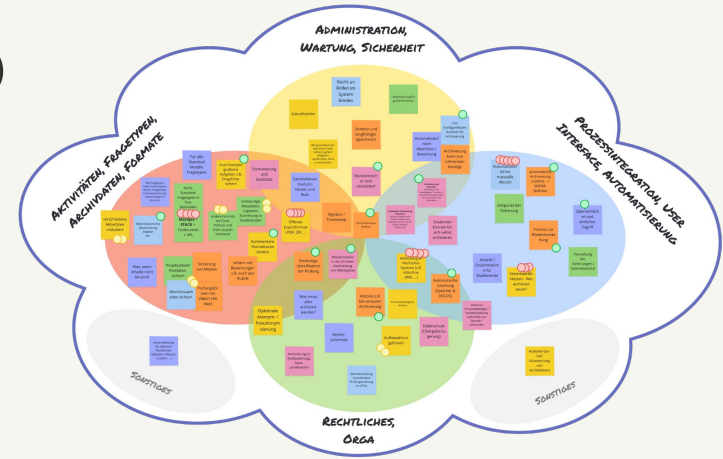
All of the following work is available on GitHub



<https://ngandrass.github.io/moodle-data-archiving-concept/>

Stakeholder Workshop

- Interactive digital workshop
- Conducted in November 2024
- 58 People
- 46 Institutions
- Identifying general requirements and institution-specific needs
- Weighing their relevance as perceived within the sample group



Stakeholder Workshop



User Stories & Requirements

- Based on workshop results, feedback from conference talks / sessions, personal interviews with university staff
- 106 user stories & 31 base requirements
- User stories weighed by their perceived relevance / demand
- Base requirements address general topics including:
 - data integrity, compatibility, data protection, regulatory topics, privacy, and many more ...



User Stories & Requirements

[REQ-CA-06] Open data standards and transmission protocols

Archiving software must use open standards for data storage and data transmission, without requiring specific software².

[US-SC-01]

As a teacher, I want to...

As a student, I want to...

[US-SC-04] Complex...

As a teacher, student, or legal staff member, I want to...

[REQ-DI-02] Static presentation of...

The presentation...

[REQ-CA-05] Open data formats

If an archiving process requires transforming data into a different format, an open... that the data can still be accessed in the future, without requiring specific software².

[REQ-MI-01] Machine-readable metadata

Archive metadata must be machine-readable (e.g., as CSV files).

[REQ-DP-04] Policies

Global archiving policies must be enforceable... regulations and policies... always archived, the w...

[US-SC-02] Archiving assignments

As a teacher, I want to archive assignments, so that I can have all submissions within a single archive without the need to download all files manually.

As a student, I want to be able to easily access both the files I submitted and the feedback (e.g., PDF annotations) I received for an assignment.

[US-AU-01] Automated archiving...

As a teacher, I want the archiving process to be automated, so that I do not have to archive quiz attempts and assignments manually.

As a legal staff member, I want the archiving process to be automated, so that I do not have to archive quiz attempts and solutions or hacks.

[US-AC-02] Quiz question types (third party)

As a teacher, I want third party question types to be supported, so that I can also export, for... third party question types to be supported alongside the... solutions or hacks.

[US-AC-07] Variable file names

As a teacher, I want the file names to be configurable, including variables (e.g., student name, matriculation number, date, ...), so that I can easily identify the student and the assignment when looking for a specific attempt.

As a system administrator, I want the file names to be configurable, including variables (e.g., student name, matriculation number, date, ...), so that I can enforce a consistent naming scheme across all archives and ensure compatibility with other systems at our institution.

[REQ-TR-03]

Representative metadata about the archive... archived data can be deleted. This includes, but is not... archiving, a list of the users whose data is included in the archive, from.

[US-AU-04] Integration with campus management systems

As a COO, I want the archiving system to be integrated with the campus management system, so that archived data can easily be processed further, e.g., storing it inside a student's digital record file.

As a teacher, I want the archiving system to be integrated with the campus... link the archived exam data to the rest of the...

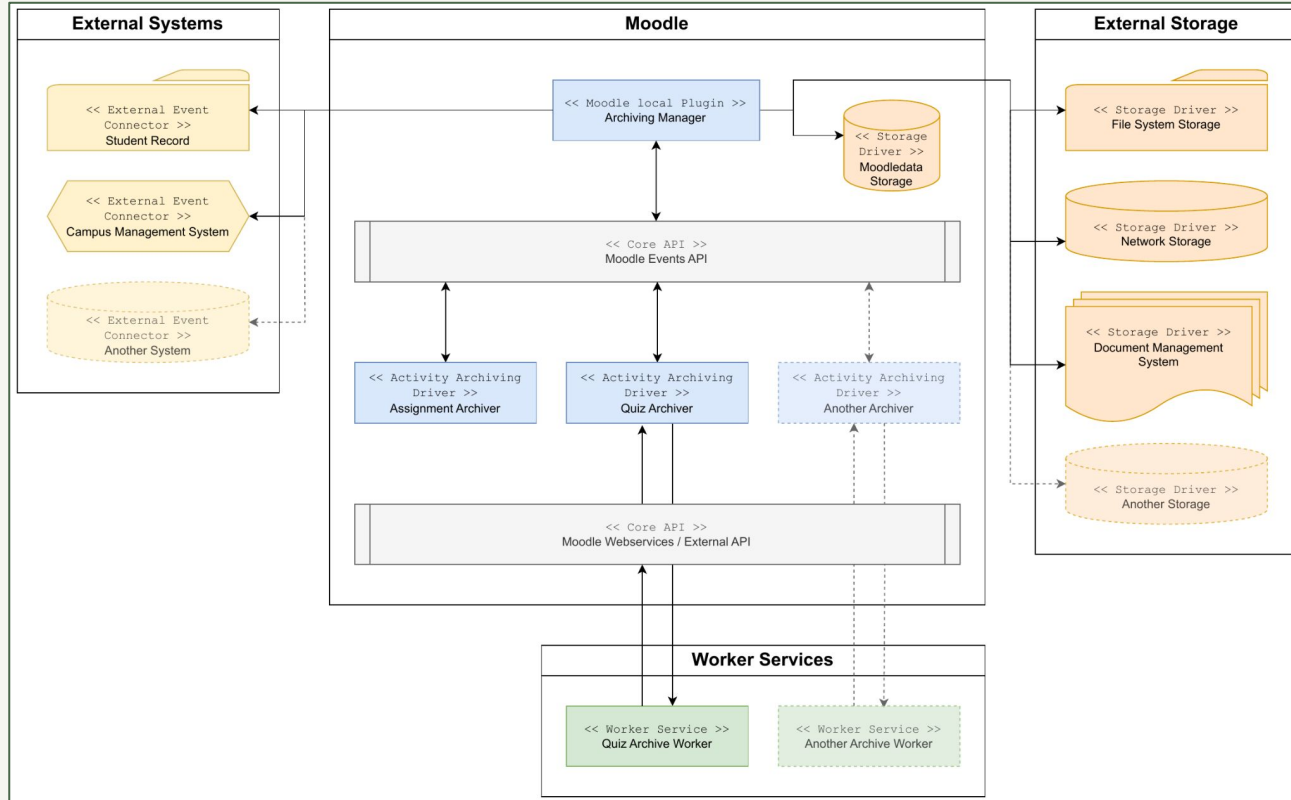
[REQ-CA-01] Future readability

Archives must be readable in up to 10 years.

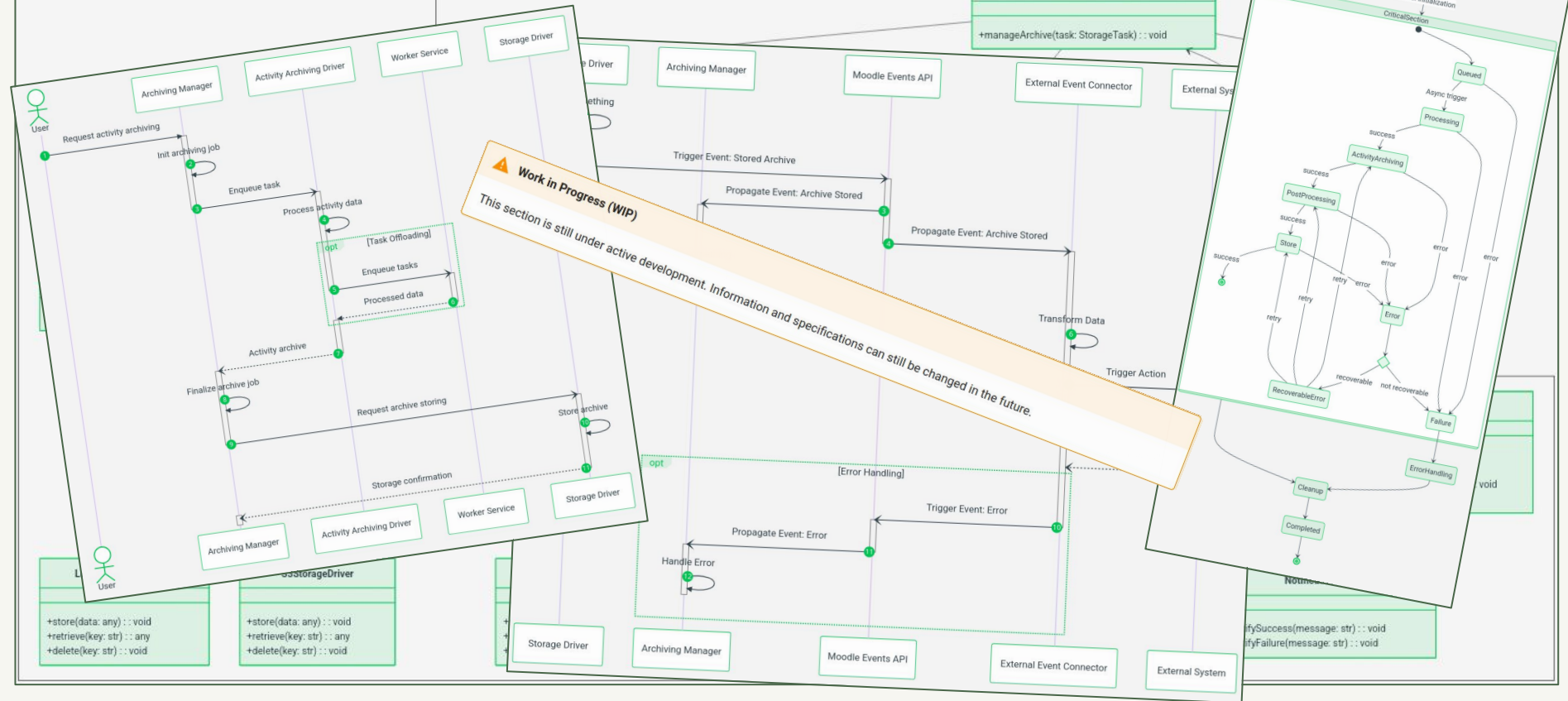
Technical Architecture Draft

- Flexible and extendable system with sub-plugin infrastructure
 - Support for different Moodle activities, storage backends, campus management systems, document management systems, ...
 - Sub-plugins can be provided by the community and allow institutions to integrate their own local systems / processes easily
- Central hub for archiving tests, assignments, and others
- Course-specific archiving overview
- Management of institution wide archiving policies
- ...

Technical Architecture Draft



Technical Architecture Draft



Next Steps



1



Prototypical
Implementation

2



Re-evaluation of
the technical
architecture draft

3



Full-featured
implementation for
a single activity
with automated tests

4



Stable release
on GitHub for
early-adopters

5



Implementation
of further
highly-demanded
Moodle activities,
storage backends, ...

6



Release within the
Moodle Plugin
Directory




Yeah, all nice and stuff
**But what does
it cost ?!**

Everything will be
open-source and freely available
under the GPL v3.0 licence



Getting Involved

- Reach out to us for additional ideas / requirements / questions / funding
- Provide feedback on the current spec document via GitHub
- We are currently implementing the first prototype within our small group
 - Technical architecture might change as we go
 - No processes for structured code contribution / review yet
- Code contributions are highly appreciated once we have a single fully-featured implementation (one activity, one storage driver, ...) 
 - Acts as a reference implementation for contributors

In The Meantime ...

- Check out the [current design documents](#)
- Try the already existing [Quiz Archiver Moodle Plugin](#)
 - Today already solves exporting Moodle Quizzes as PDF files with a single click
 - See: https://moodle.org/plugins/quiz_archiver
- Provide feedback on GitHub or via mail
- Take part in the upcoming discussion



Thank You!



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